

Clean Water and Forestry: A Perfect Match

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WITH 22 MILLION ACRES of forestland, Alabama has the second largest commercial forest in the country. Only Georgia has more commercial forestland. Ninety-five percent of Alabama's forestland is owned by private landowners. Our state is blessed with a warm climate and an annual rainfall that is ideal for forest growth.

There are many benefits derived from Alabama's forests, such as abundant wildlife, recreational opportunities, wood products, jobs provided by the forest industry, and natural beauty. Alabama's forests also help protect our waterways by filtering the abundant rainfall we receive. The land area that collects and discharges its surface streamflow through one outlet is termed a **watershed**. Alabama has 14 river basins containing over 250 watersheds. The forest vegetation in these watersheds helps to control erosion, improve water quality, and reduce flooding.

Forestry is definitely an asset to the water quality of the state. However, during some phases of managing a forest, a forested watershed can become a source of pollutants. Sediment is the most widespread and important pollutant com-

ing from the forest. Sediment is the loose soil particles that are detached and transported, usually by the force of rain. Sediment becomes a problem when it is deposited into a streambed and upsets the delicate balance needed for aquatic life. Other pollutants coming from forestry activities are nutrients, organics, temperature, and pesticides.

To help guide forest landowners, *Alabama's Best Management Practices for Forestry* (BMPs) was developed. The Alabama Forestry Commission (AFC) produced the first publication in 1983 with the assistance of Auburn University. The BMP manual underwent a significant revision in 1993, again with the assistance of Auburn University and other members of the forestry community. The BMPs in the booklet lay out a framework of sound stewardship practices that, when consistently applied, will contribute positively to maintaining a high degree of water quality flowing from a forest. Recently, there has been a significant amount of attention given to cleaning up Alabama's water. The Environmental Protection Agency and many other state and federal agencies and groups are raising the awareness of the public to the need to improve the quality of our water.

The EPA and others have analyzed Alabama's streams and listed the various pollutants or causes. They have also listed the source of the pollutants. Although only a small contributor to the overall problem, forestry is being scrutinized by many people these days.

As Forest Operations Specialist with the Alabama Forestry Commission, I have the responsibility of coordinating our BMP program. Since assuming this position a little over a year ago, I have been amazed at the high level of interest that exists from people wanting to know what the AFC is doing in regards to BMPs. The time seems right to report the Forestry Commission's responsibilities and actions regarding BMPs.

The Forestry Commission's BMP Program has three main focus areas:

- Education
- Random Monitoring
- Responding to Complaints

BMP Education

Since the revision of *Alabama's Best Management Practices for Forestry* in 1993, over 35,000 copies of the manual have been printed and distributed to landowners, foresters, loggers, universities, and industries. BMP demonstration projects have been developed so that loggers, landowners, and others can get a firsthand look at BMPs being used on the ground.

Countywide forestry tours are given that highlight BMPs. The AFC provides free pre-harvest consultations for landowners and loggers for the purpose of advising them on proper usage of BMPs on a particular harvesting site. Numerous articles have been written and published encouraging the use of BMPs.

The AFC has produced an educational video on BMPs and distributed hundreds of copies. This video has been and remains a vital part of the logger training program given by the Alabama Loggers

Table 1
Summary of BMP Complaints Received from ADEM
Fiscal Years 1994 - 99

FY	Not Related to Silviculture	BMPs Properly Implemented	Problems Corrected	Problems Not Corrected	Totals
94	2	6	18	3	29
95	4	8	17	2	31
96	4	8	12	0	24
97	2	3	7	1	13
98	3	8	6	0	17
99	0	19	9	1	29
Total	15	52	69	7	143



The forest vegetation in Alabama's watersheds helps to control erosion, improve water quality, and reduce flooding.

Council to thousands of loggers across the state.

Random Monitoring

Statistically sound random sampling methods have been used since 1994 to sample logging operations across the state to determine if BMPs are being used and if they are used appropriately (see Figure 1 for recent results). Forestry Commission pilots aerially survey all 67 counties each quarter and record the location of all forestry operations. The AFC's four regional management specialists (who also serve as BMP coordinators for their part of the state) select sites at random, which are then inspected by AFC county personnel. One county site is inspected every two months, or six sites per county per year, a total of 200 inspections per year. This is done in the southern half of the state one year and rotated to the northern half of the state the next year.

Review of Silvicultural Related Water Quality Complaints

A cooperative agreement is in effect that allows the Alabama Department of Environmental Management (ADEM) to refer water quality complaints that appear to be related to silviculture to the AFC for review (see Table 1). After reviewing the complaint, if the AFC determines that BMPs have not been correctly utilized and that a water quality problem does exist, the AFC then advises

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Forestry tours that highlight BMPs are part of the educational effort for loggers, landowners and agency personnel.


es the responsible party on how to correct the problem. This process has proven effective for correcting most of the problems; however, a better solution is for landowners to call the AFC for a pre-harvest consultation. Many of the AFC's field personnel have told me that the pre-harvest consultations are rarely requested.

Summary

In 1993, Don Burdette, then the water quality forester with the AFC, wrote an article for *Alabama's TREASURED*

Forests magazine about BMPs. In his concluding remarks, Don predicted that if we continue to harvest timber without taking water quality into consideration, the government could pass regulations enforcing BMPs. His prediction is close to becoming true.

I believe regulations and restrictions are soon to come when people in authority perceive that voluntary guidelines are not working. It is up to Alabama's private forest owners to ensure that BMPs are followed, and by doing so, prove to everyone that voluntary compliance is working and regulations are not needed.

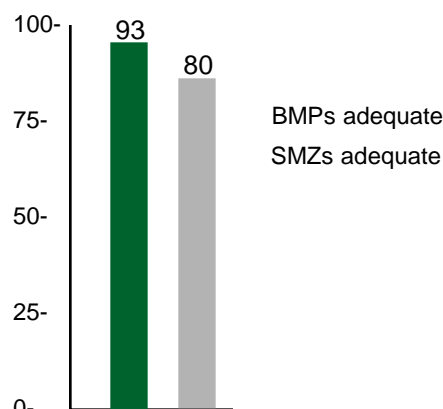
If you are a landowner and have plans to sell timber, the best way to make sure that BMPs are followed is to include them in your timber sale contract. Require the logger to follow BMPs in every phase of the harvesting operation. If you are not familiar with Alabama's Best Management Practices for Forestry, contact your local Forestry Commission office for a copy or call me at (334) 240-9348. You may also write to: Tim Albritton, Alabama Forestry Commission, P.O. Box 302550, Montgomery, AL 36130-2550; or send e-mail to AlbrittonT@forestry.state.al.us. 

References

- Alabama's Best Management Practices for Forestry.** Alabama Forestry Commission, 1993.
- Hewlett, John D. **Principles of Forest Hydrology.** 1982.

Figure 1

BMP Random Sampling Fiscal Year 1998-99



Overall, BMPs were adequate on 93% of the sites inspected.

Of the sites with streams, 80% had adequate streamside management zones.